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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,786	02/18/2004	Kevin M. Ferguson	7634 US 1	2744

7590 06/06/2005

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EXAMINER

KHUU, HIEN DIEU THI

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,786

Applicant(s)

FERGUSON, KEVIN M.

Examiner

Cindy D. Khuu

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Drawing Objections

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: **24** and **28**. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figures 1 and 3-8 require unit scaling.

Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemann (6,298,322) in view of Riley et al. (5,959,726).

Lindemann teaches the following claimed features of the invention:

With respect to claim 1, a method of frequency response measurement comprising the steps of: creating a complex sinusoid window at a particular frequency (**Column 7: Lines 44-47; tapered window is a type of sinusoid window**) (**Column 8: Lines 31-33**); correlating an input sinusoidal test signal (**Column 7: Lines 24-25; synthesis is a form of correlation**) with the complex sinusoid window to produce a complex correlation magnitude signal (**Column 11: Lines 12-19**); finding a centroid of the complex correlation magnitude signal (**Column 11: Line 32**) (**Column 13: Lines 57-63**); and determining the frequency response at the particular frequency as the complex correlation magnitude at the centroid (**Column 9: Lines 14-16**).

However, Lindemann does not teach the following claimed feature:

With respect to claim 1, a method of frequency response measurement comprising the step of: thresholding the complex correlation magnitude signal as a function of a percentage of a maximum complex correlation magnitude.

Nevertheless, Riley teaches the following:

With respect to claim 1, a method of frequency response measurement (**Column 1: Lines 60-61**) comprising the step of: thresholding the complex correlation magnitude signal (**Column 17: Lines 40-42**) as a function of a percentage of a maximum complex (**Column 18: Lines 5-8**) correlation magnitude.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Lindemann to include the method of

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thresholding the complex correlation magnitude signal as a function of percentage as disclosed by Riley for the purpose of measuring the frequency response with high accuracy (**Column 8: Lines 29-31**).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following is cited to further show the state of art with respect to method of frequency response measurement:

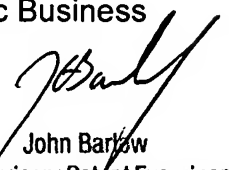
U.S. Patent No. 5,029,509 to Serra et al. disclose a musical sound analyzer and synthesizer; U.S. Patent No. 4,937,873 to McAulay et al. disclose a computationally efficient sine wave synthesis for acoustic waveform processing; U.S. Patent No. 4,885,790 to McAulay et al. disclose a sinusoidal model for acoustic waveforms.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy D. Khuu whose telephone number is (571) 272-8585. The examiner can normally be reached on M-F, 8-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdh 5/25/05


John Barlow
Supervisory Patent Examiner
Technology Center 2800